

Figure 1

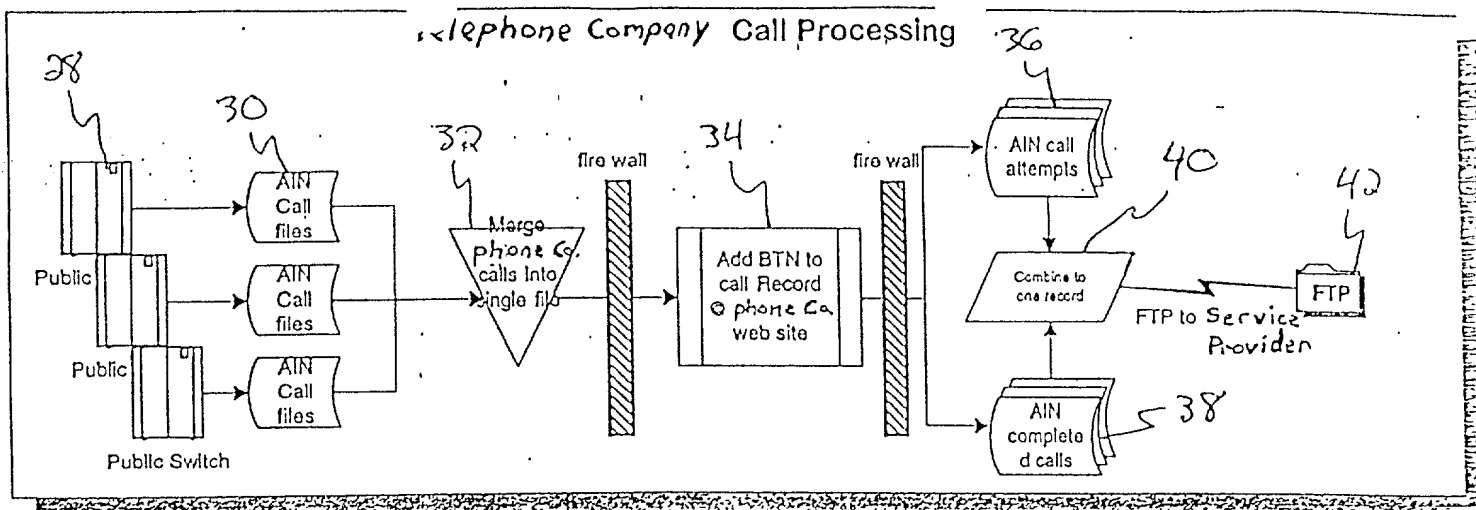


Fig. 2

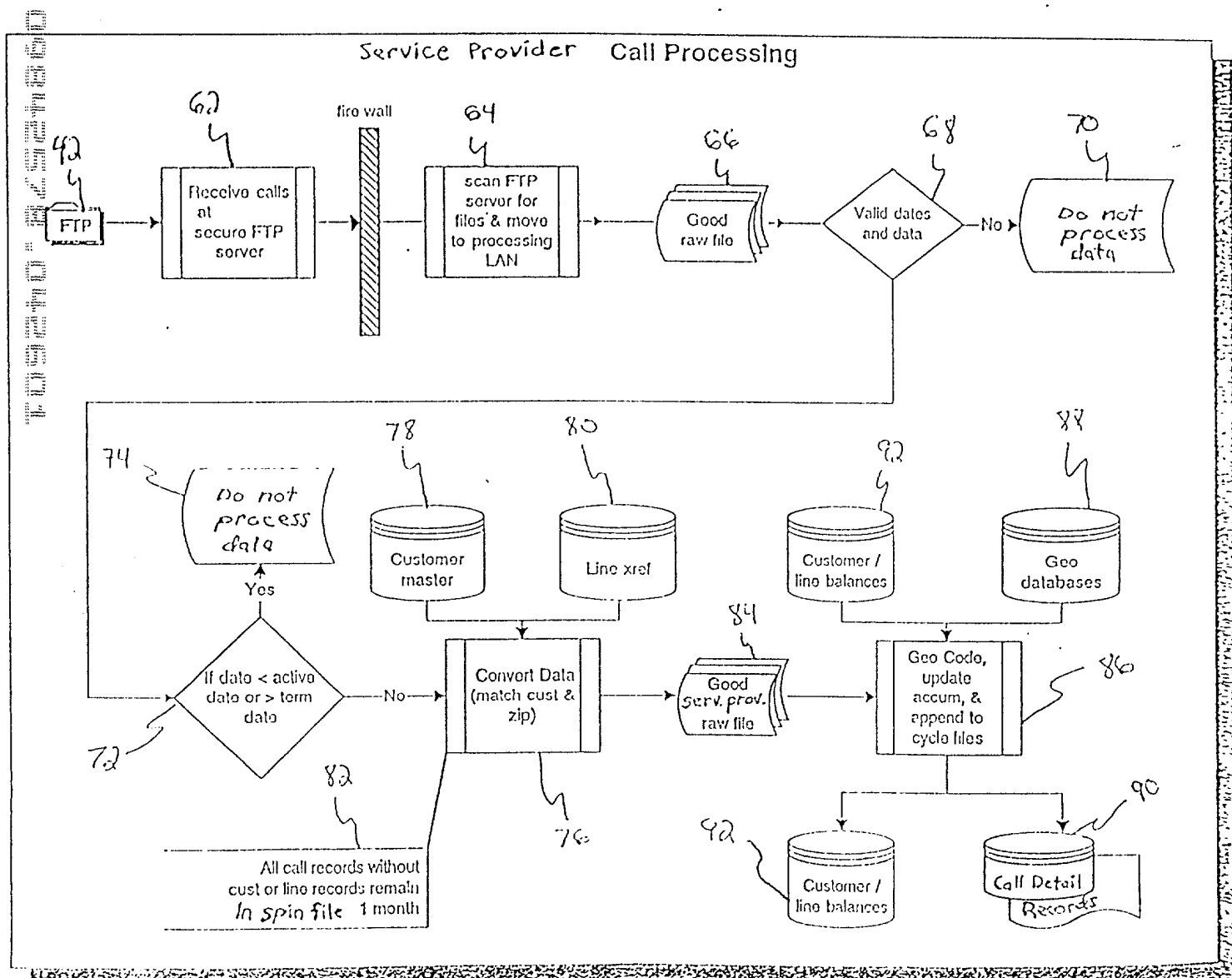


Fig. 4

Cycle Processing

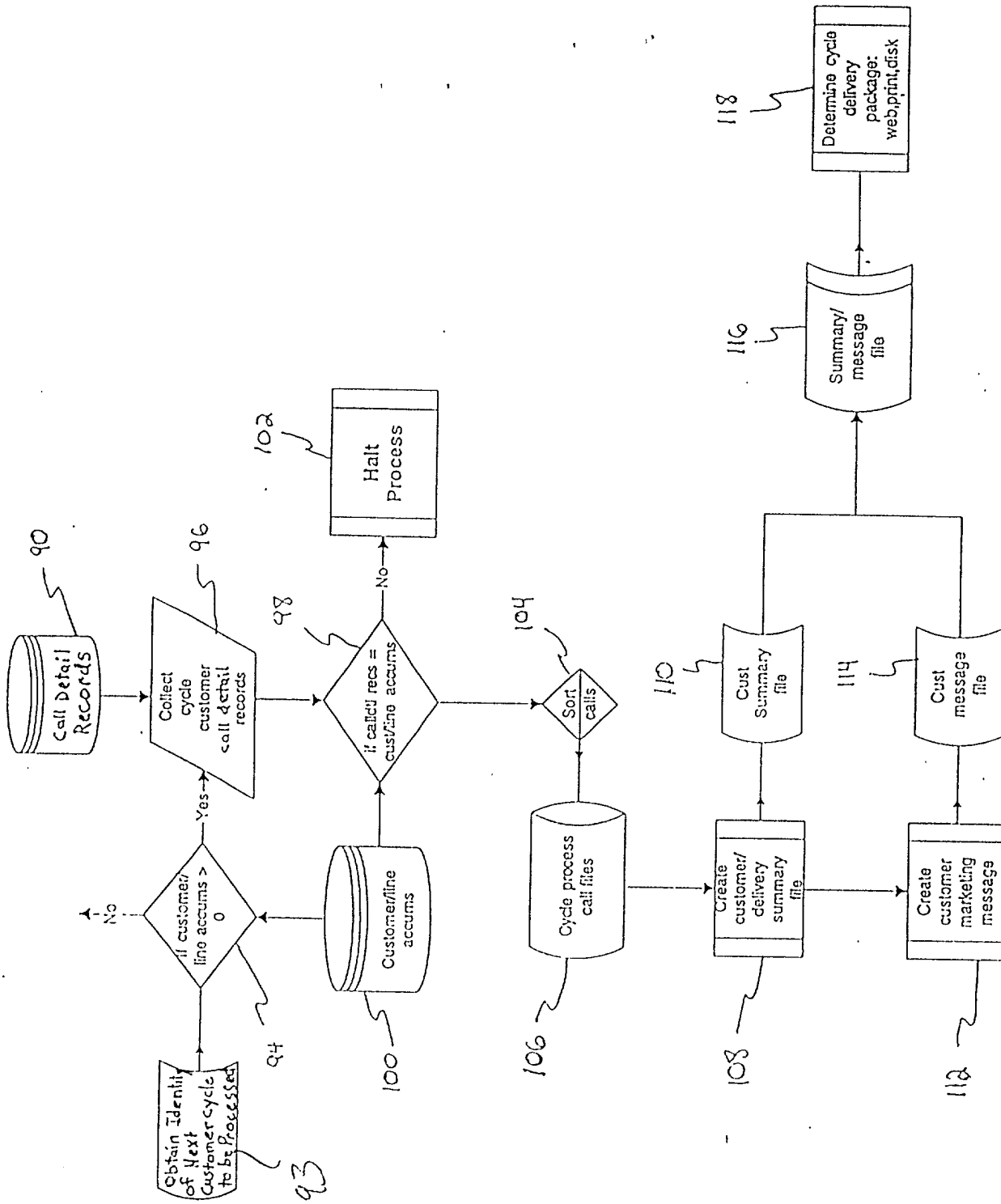


Fig. 5

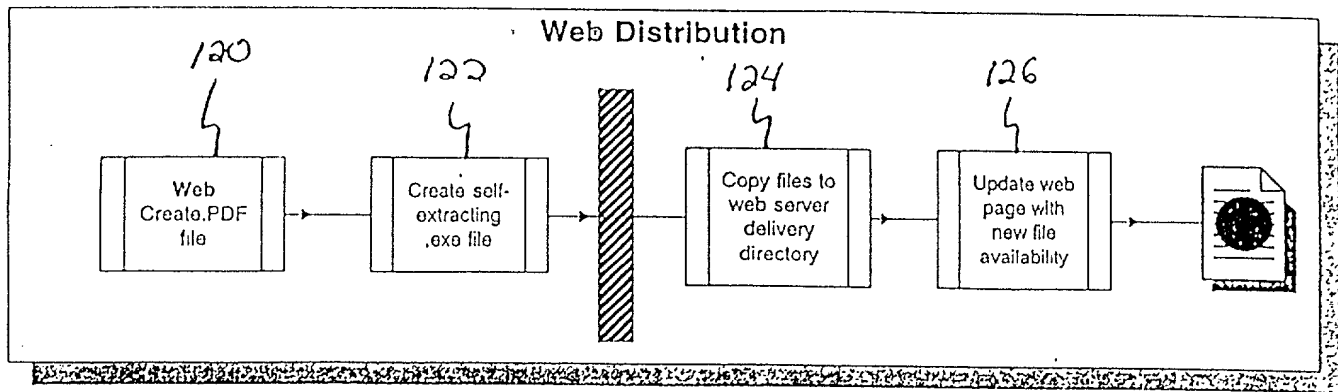


Fig. 6

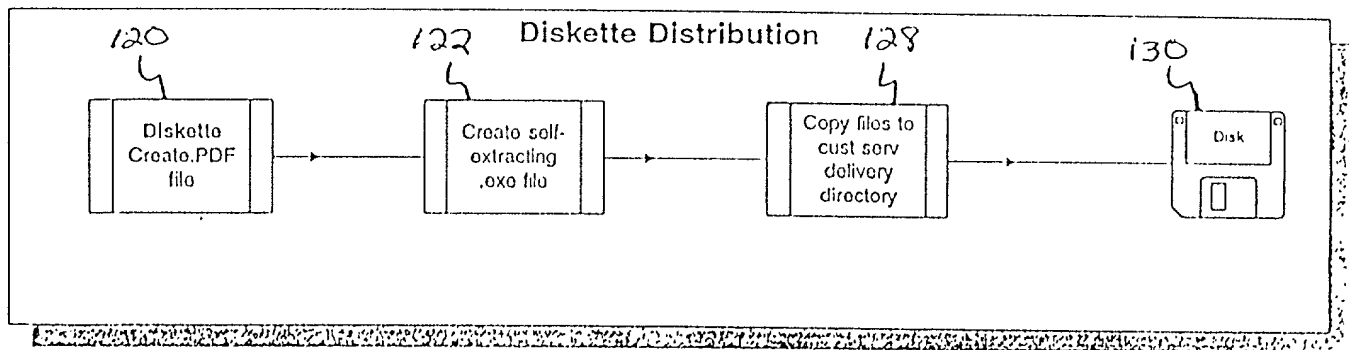


Fig. 7

127 134 136 138 140 144 146 148 150 152 154 156 158 160 162 164 166 168 170 172 174 176 178 180 182 184 186 188 190 192 194 196 198 200 202 204 206 208 210 212 214 216 218 220 222 224 226 228 230 232 234 236 238 240 242 244 246 248 250 252 254 256 258 260 262 264 266 268 270 272 274 276 278 280 282 284 286 288 290 292 294 296 298 300 302 304 306 308 310 312 314 316 318 320 322 324 326 328 330 332 334 336 338 340 342 344 346 348 350 352 354 356 358 360 362 364 366 368 370 372 374 376 378 380 382 384 386 388 390 392 394 396 398 400 402 404 406 408 410 412 414 416 418 420 422 424 426 428 430 432 434 436 438 440 442 444 446 448 450 452 454 456 458 460 462 464 466 468 470 472 474 476 478 480 482 484 486 488 490 492 494 496 498 500 502 504 506 508 510 512 514 516 518 520 522 524 526 528 530 532 534 536 538 540 542 544 546 548 550 552 554 556 558 560 562 564 566 568 570 572 574 576 578 580 582 584 586 588 590 592 594 596 598 600 602 604 606 608 610 612 614 616 618 620 622 624 626 628 630 632 634 636 638 640 642 644 646 648 650 652 654 656 658 660 662 664 666 668 670 672 674 676 678 680 682 684 686 688 690 692 694 696 698 700 702 704 706 708 710 712 714 716 718 720 722 724 726 728 730 732 734 736 738 740 742 744 746 748 750 752 754 756 758 760 762 764 766 768 770 772 774 776 778 780 782 784 786 788 790 792 794 796 798 800 802 804 806 808 810 812 814 816 818 820 822 824 826 828 830 832 834 836 838 840 842 844 846 848 850 852 854 856 858 860 862 864 866 868 870 872 874 876 878 880 882 884 886 888 890 892 894 896 898 900 902 904 906 908 910 912 914 916 918 920 922 924 926 928 930 932 934 936 938 940 942 944 946 948 950 952 954 956 958 960 962 964 966 968 970 972 974 976 978 980 982 984 986 988 990 992 994 996 998 1000

FILE_ID	CDATE	CTIME	DN	CPN	ICALL	TYPE	CALL_DISP	CALL_STAT	CALL_DUR	IXACTION	ICPN_NAME	POSTALCODE	LONGITUDE	LATITUDE	Q_BYTES	MISC
8/22/98	04:18:15 PM	5135551212	937587400	0	2	0	0	0	0	0	unavailable		-84.193714	39.759868	S	
8/22/98	04:18:36 PM	5135551212	3122562495	0	0	1	1	260	260	0	unavailable		-85.384117	38.733633	S	
8/22/98	04:32:30 PM	5135551212	7405458420	0	0	1	1	200	200	0	unavailable		-82.961757	40.232652	S	
8/22/98	06:39:51 PM	5135551212	1111111111	0	0	1	1	360	360	0	unavailable		0.000000	0.000000	U	
8/23/98	08:55:34 AM	5135551212	5555555555	0	0	1	1	2730	2730	0	unavailable		0.000000	0.000000	U	
8/23/98	09:09:07 AM	5135551212	1111111111	0	0	1	1	240	240	0	unavailable		0.000000	0.000000	U	
8/23/98	09:52:46 AM	5135551212	1111111111	0	1	0	0	0	0	0	unavailable		0.000000	0.000000	U	
8/23/98	12:22:41 PM	5135551212	1111111111	0	0	1	1	230	230	0	unavailable		0.000000	0.000000	U	
8/23/98	12:48:28 PM	5135551212	5133901888	0	0	1	1	110	110	0	unavailable		-84.519930	39.102459	S	
8/23/98	01:41:09 PM	5135551212	6066207160	0	0	1	1	220	220	0	unavailable		-84.519930	39.102459	S	
8/23/98	01:53:10 PM	5135551212	9378565488	0	0	1	1	100	100	0	unavailable		-84.364952	39.623529	S	
8/23/98	02:17:51 PM	5135551212	1111111111	0	2	0	0	0	0	0	unavailable		0.000000	0.000000	U	
8/23/98	03:32:58 PM	5135551212	1111111111	0	0	1	1	50	50	0	unavailable		0.000000	0.000000	U	
8/23/98	03:47:34 PM	5135551212	5136598931	0	3	0	0	0	0	0	unavailable		-84.519930	39.102459	S	
8/23/98	05:30:56 PM	5135551212	7638471638	0	0	1	1	220	220	0	unavailable		-84.941571	40.049073	S	
8/23/98	07:16:25 PM	5135551212	9372740967	0	0	1	1	70	70	0	unavailable		-84.225906	39.790287	S	
8/23/98	11:09:44 PM	5135551212	1111111111	0	0	1	1	2720	2720	0	unavailable	410019720	0.000000	0.000000	U	
8/21/98	09:06:43 AM	5135551212	6066354067	0	0	1	1	50	50	0	unavailable	410058211	-84.419803	38.880632	A	
8/20/98	09:17:34 AM	5135551212	6065895650	0	0	1	1	4400	4400	0	unavailable	410059751	-84.722085	39.028344	A	
8/19/98	08:33:35 AM	5135551212	6068697769	0	2	0	0	0	0	0	unavailable	410059751	-84.737297	39.075182	A	
8/19/98	09:05:04 AM	5135551212	6068879769	0	0	1	1	2160	2160	0	unavailable	410059751	-84.737297	39.075182	A	
8/19/98	05:22:59 PM	5135551212	6068896779	0	0	1	1	2850	2850	0	unavailable	410059751	-84.737297	39.075182	A	
8/21/98	08:55:45 PM	5135551212	606722444	0	0	1	1	280	280	0	unavailable	410069608	-84.369442	38.787168	A	
8/17/98	11:59:37 AM	5135551212	6069218116	0	0	1	1	760	760	0	unavailable	410111135	-84.530487	39.082738	A	
8/20/98	02:43:02 PM	5135551212	6062198116	0	0	1	1	3450	3450	0	unavailable	410111135	-84.530487	39.082738	A	
8/21/98	04:59:46 PM	5135551212	6062198116	0	1	0	0	0	0	0	unavailable	410111135	-84.530487	39.082738	A	
8/18/98	10:21:30 AM	5135551212	6062916544	0	0	1	1	1610	1610	0	unavailable	410111160	-84.529001	39.082483	A	
8/19/98	02:26:36 AM	5135551212	6069214564	0	0	1	1	710	710	0	unavailable	410111160	-84.529001	39.082483	A	

Fig. 8

90

Geocoding logic hierarchy

Criterion				Value
<u>CASE 1</u> ~ 180				
IF	9 digit zip exists in zip field	& exists in ->	9 digit zip DB	A
	otherwise 9 digit zip (1st 5 digits)	exists in ->	5 digit zip DB	B
	otherwise 9 digit zip (1st 3 digits)	exists in ->	3 digit zip DB	C
	otherwise npanxx of calling # field	exists in ->	npanxx DB	D
	otherwise npa of calling # field	exists in ->	nap DB	E
	otherwise use special value indicating unknown origin			F
<u>CASE 2</u> ~ 182				
otherwise, IF	6, 7, or 8 digit zip exists in zip field (bad data)			
	AND npanxx of calling # field	exists in ->	npanxx DB	G
	otherwise npa of calling # field	exists in ->	nap DB	H
	otherwise use special value indicating unknown origin			I
<u>CASE 3</u> ~ 184				
otherwise, IF	5 digit zip exists in zip field	& exists in ->	5 digit zip DB	J
	otherwise 5 digit zip (1st 3 digits)	exists in ->	3 digit zip DB	K
	otherwise npanxx of calling # field	exists in ->	npanxx DB	L
	otherwise npa of calling # field	exists in ->	nap DB	M
	otherwise use special value indicating unknown origin			N
<u>CASE 4</u> ~ 186				
otherwise, IF	< 5 digit zip exists in zip field (bad data)			
	AND npanxx of calling # field	exists in ->	npanxx DB	P
	otherwise npa of calling # field	exists in ->	nap DB	Q
	otherwise use special value indicating unknown origin			R
<u>CASE 5</u> ~ 188				
otherwise, IF	0 or null exists in zip field (no zip)			
	AND npanxx of calling # field	exists in ->	npanxx DB	S
	otherwise npa of calling # field	exists in ->	nap DB	T
	otherwise use special value indicating unknown origin			U

FIG. 9

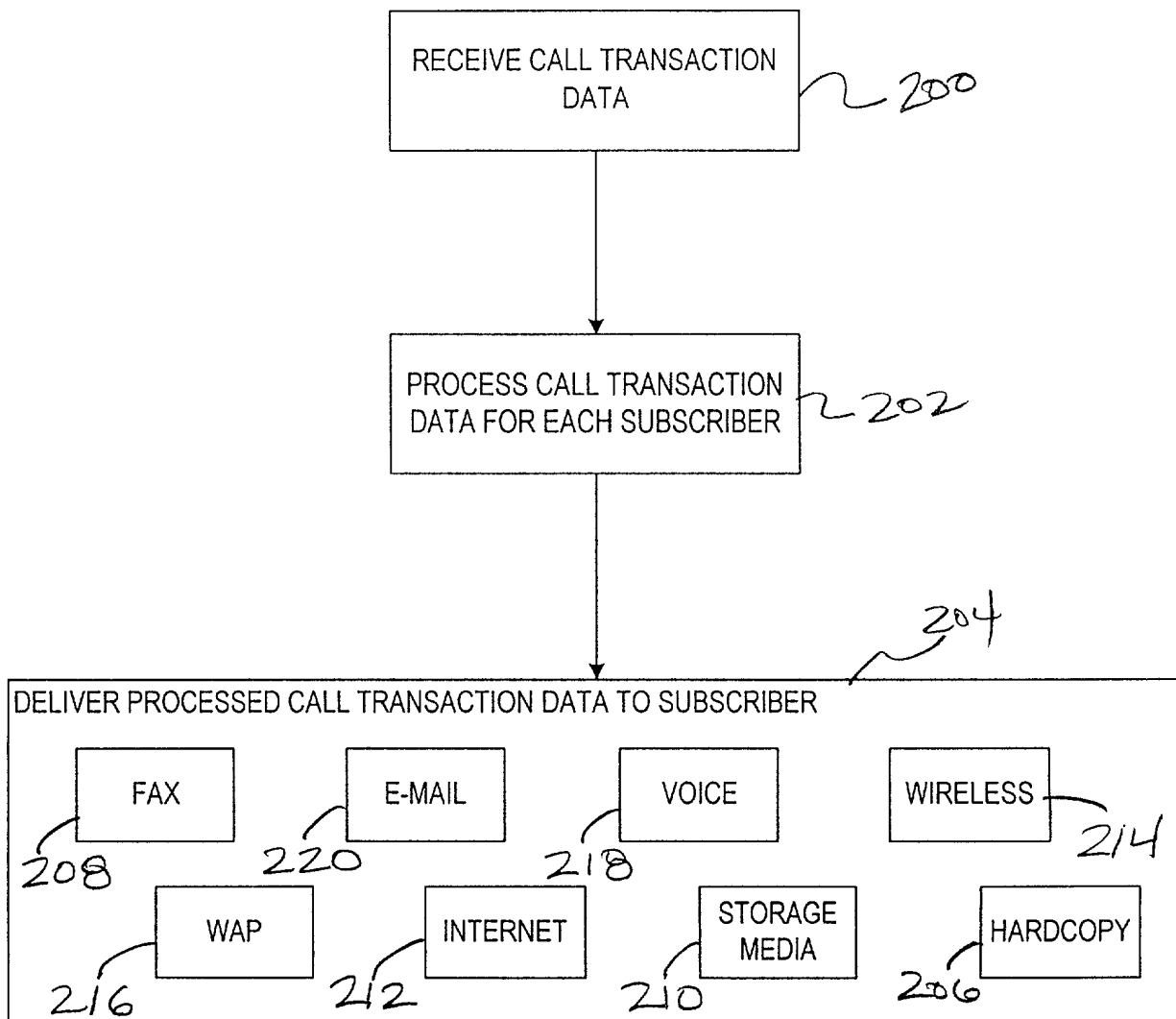


FIG. 10

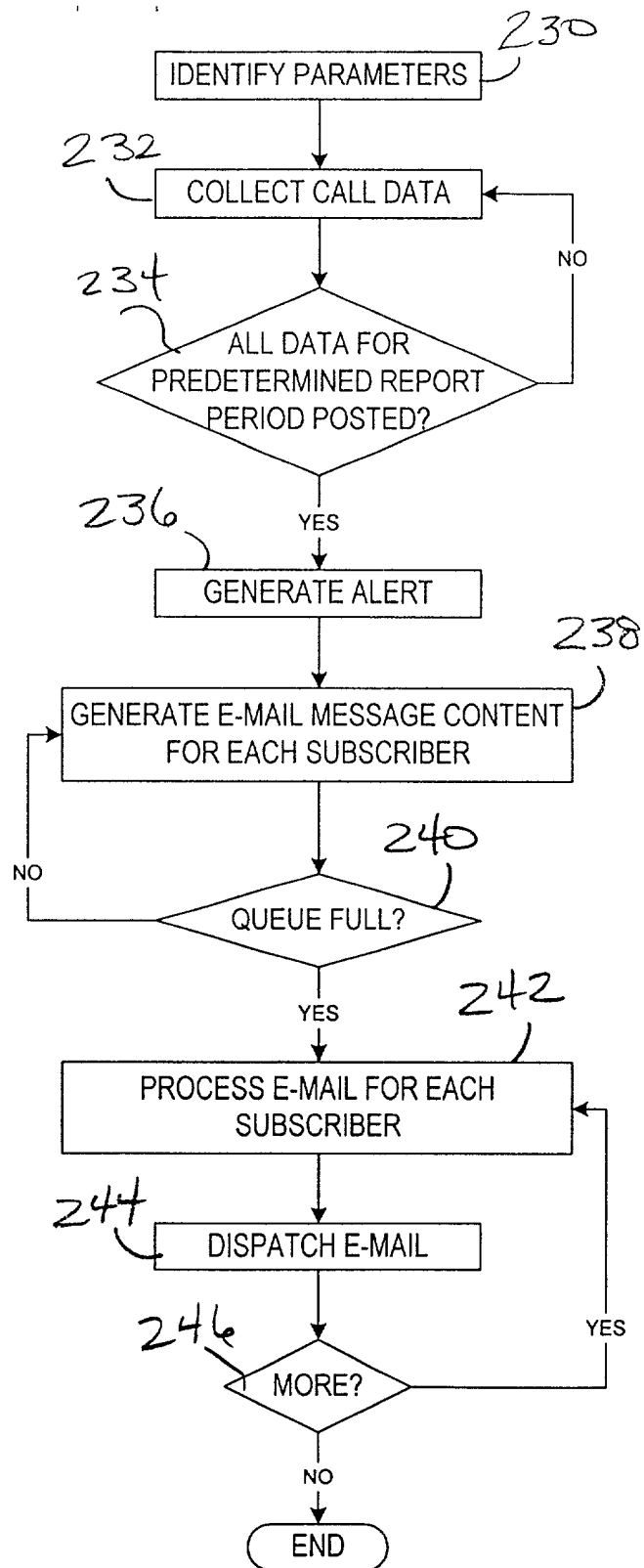


FIG. 11

From:
Sent:
To:
Subject:

252
TeleFlash@xyztelco.com
Monday, April 10, 2000 8:00
customer@ispserver.com
Telco Weekly Call Summary

250
FIG. 12

Telephone Co. TeleFlash

258 Here is your call summary information for the week of April 3, 2000 – April 9, 2000
Phone Number: 301-555-1234

256
Total incoming calls for the week: 2909
Total answered calls for the week: 2744 (94%)
Total unanswered calls for the week: 30 (1%)
Total busy calls for the week: 134 (5%)
Total other calls for the week: 1 (0%)

Your 7 day average calls per 416
Your Mon-Fri average calls per day: 562
Your busiest calling day: Thursday
Your busiest calling hour: 3-4 PM

262
Try Call Option-1 for as low as \$25.00 a month

You will be able to analyze:

<http://www.xyztelco.com>

- Maps of calls and callers
- Lists of top callers and callers who received busies
- Who you spend the most amount of time with?
- Trends of what happens by week, month, etc...
- How effective your marketing and advertising programs are?

Advertisement Text... Advertisement Text... Advertisement Text... Advertisement Text...



264
If you would like to have this E-mail sent to other individuals within your company, go to
<http://www.xyztelco/teleflash.com/personalpage>

270
If you would like to stop receiving this E-mail notification, go to
<http://www.xyztelco/teleflash.com/personalpage>

268

288 { [HYPERLINK](#)
[HYPERLINK](#)
[HYPERLINK](#)
[HYPERLINK](#)

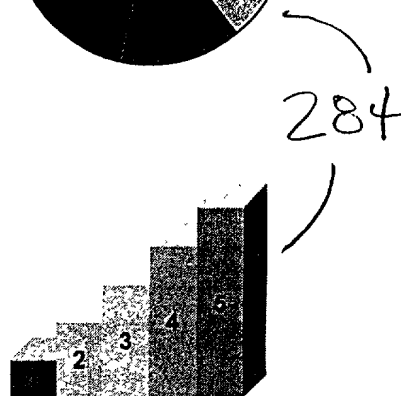
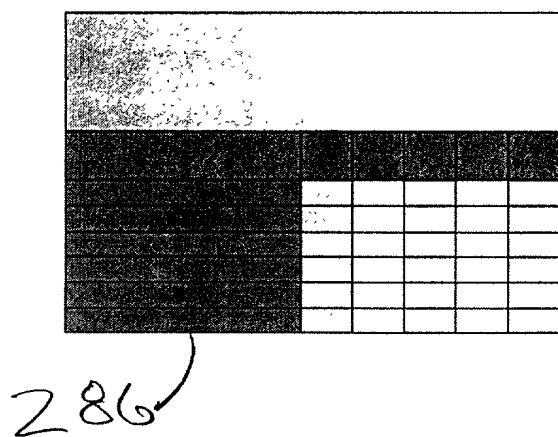
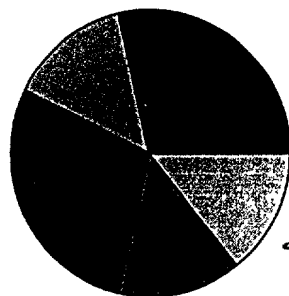
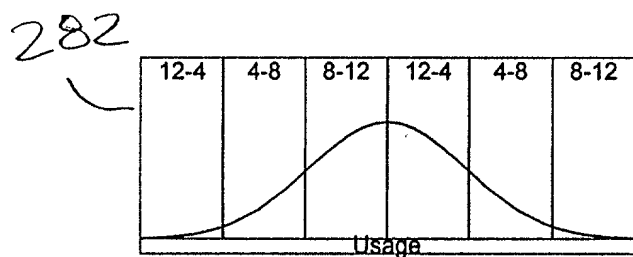


FIG. 13

← 300

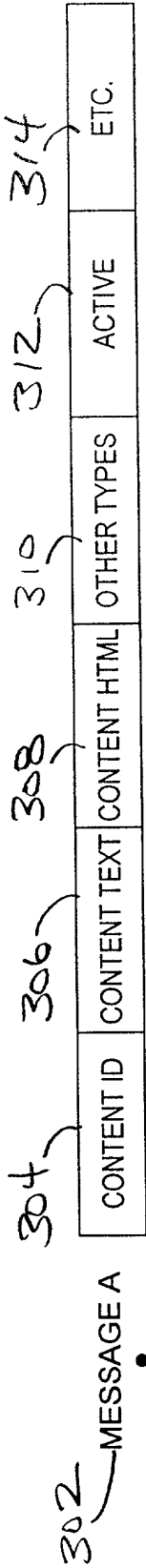


FIG. 14

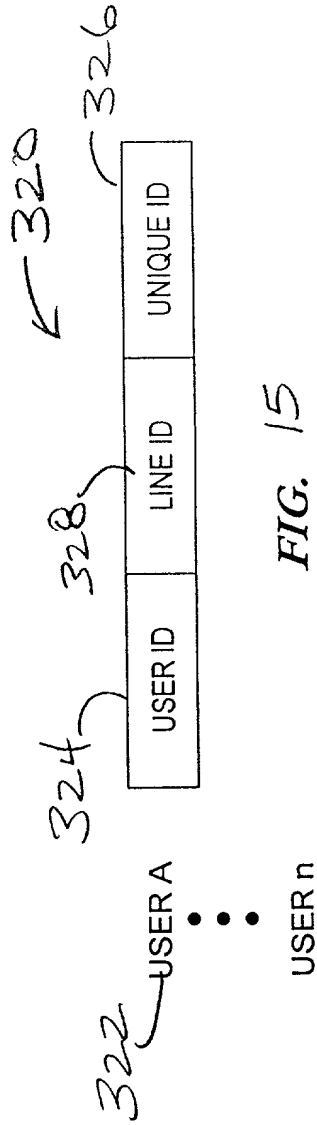


FIG. 15

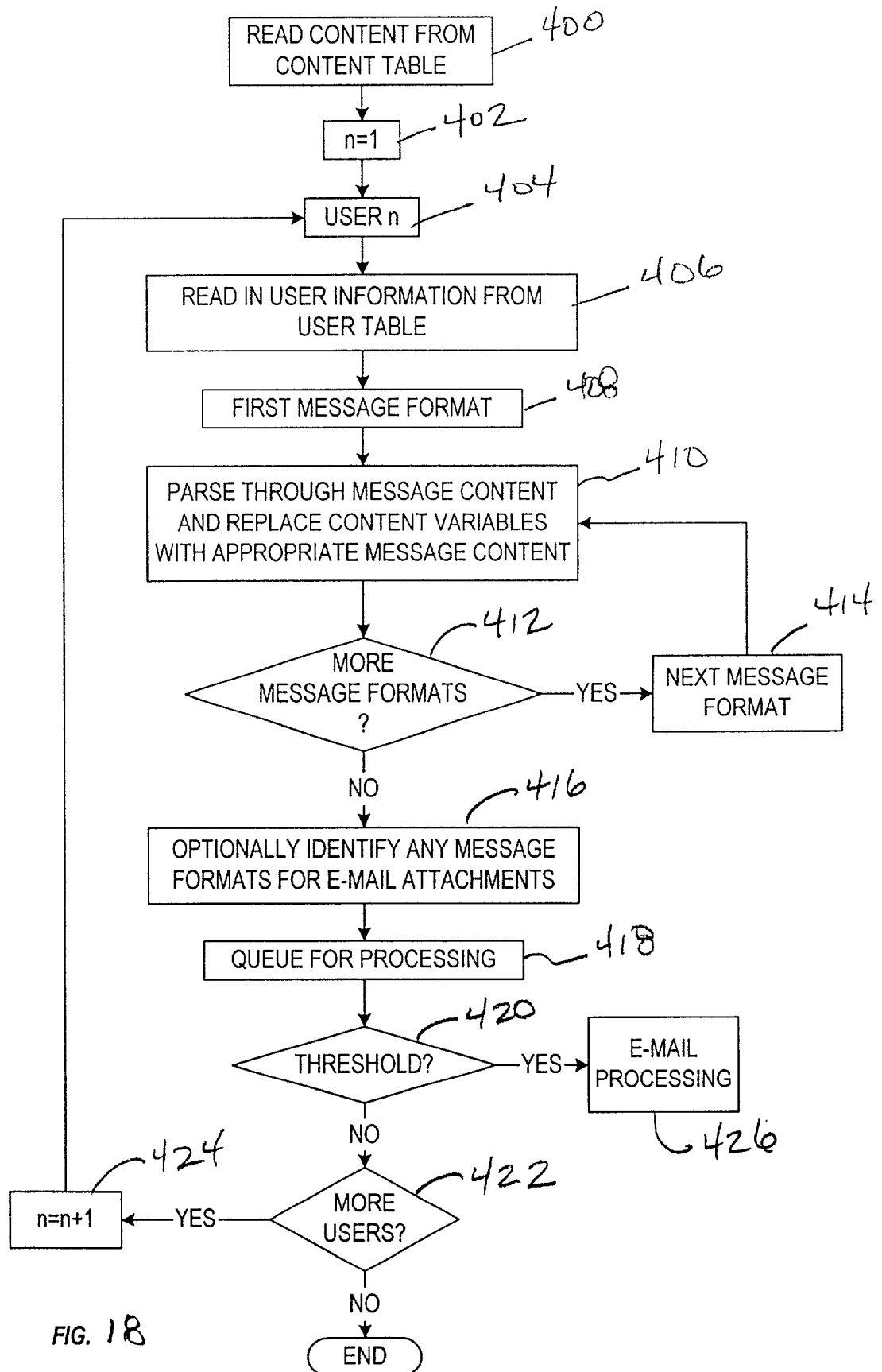
← 340

342	VARIABLE A	344	346	348	350	352	354
		VARIABLE ID	VARIABLE NAME	VARIABLE OBJECT	VARIABLE ROW	VARIABLE COLUMN	ETC.

FIG. 16

360	INCOMING	NUMBER OF CALLS THAT CAME IN
362	ANSWERED	NUMBER OF CALLS THAT WERE ANSWERED
364	UNANSWERED	NUMBER OF CALLS THAT WERE UNANSWERED
366	BUSY	NUMBER OF CALLS THAT WERE BUSY
368	OTHER	NUMBER OF CALLS THAT WERE OF AN UNKNOWN STATE
370	INCOMING %	PERCENTAGE OF CALLS THAT CAME IN (i.e., 100%)
372	ANSWERED %	PERCENTAGE OF CALLS THAT WERE ANSWERED
374	UNANSWERED %	PERCENTAGE OF CALLS THAT WERE UNANSWERED
376	BUSY %	PERCENTAGE OF CALLS THAT WERE BUSY
378	OTHER %	PERCENTAGE OF CALLS THAT WERE OF AN UNKNOWN STATE
380	SEVEN DAY AVERAGE	AVERAGE NUMBER OF CALLS FOR THE SEVEN DAYS
382	FIVE DAY AVERAGE	AVERAGE NUMBER OF CALLS FOR FIVE DAYS (M-F)
384	FIVE DAY TOTAL	NUMBER OF CALLS FOR FIVE DAYS (M-F)
386	BUSY DAY	THE DAY WITH THE MOST TOTAL CALLS
388	BUSY DAY TOTAL	NUMBER OF CALLS THAT OCCURRED FOR THE BUSIEST DAY
390	TOP ZIP	THE ZIP CODE WHERE THE MOST CALLS CAME FROM
392	TOP STATE	THE STATE WHERE THE MOST CALLS CAME FROM

FIG. 17



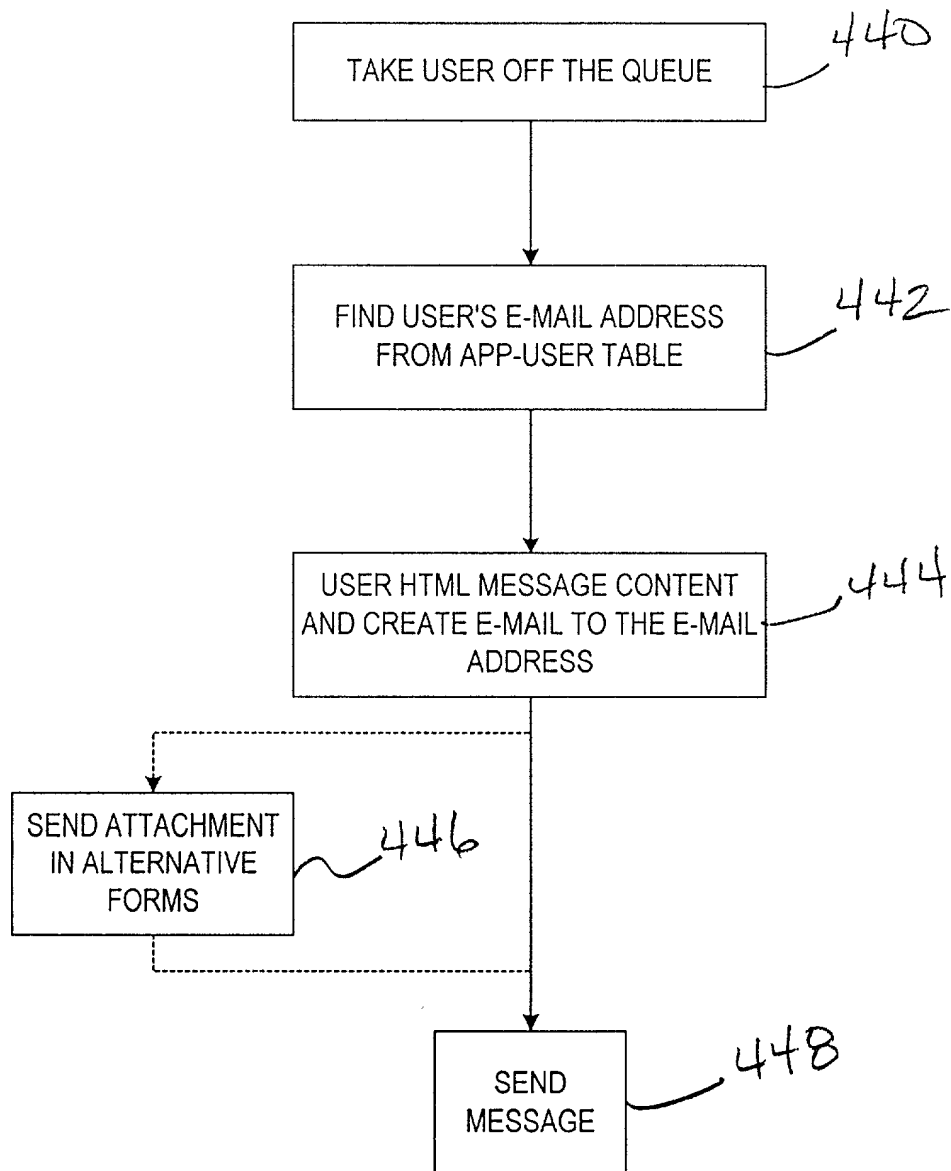


FIG. 19

FIG. 20

500

502

Report Selection : Demonstration Data Set

Quick Summary

1116
Answered Calls

100
Abandoned Calls

85
Busy Calls

114
Other Calls

1415
TOTAL Calls

Report Period

08/10/98 08/16/98 7
Start Date End Date Days in Period

504 Change Dates

Report Set Selection

Report Collection 10

Active Report Set

508 Customize Report Set

506 View Reports

510

EXIT

FIG. 20

520
↙

August 1998						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
27	28	29	30	31	1	2
3	4	5	6	7	8	9
<div> <div>10</div> <div>11</div> <div>12</div> <div>* ACTIVE *</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> </div> <div>Available</div>						
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

FIG. 21

FIG. 21

Customize Report Sets

Report Collection 10

Report Sets:

Incoming & Outgoing

Call Types

Select Reports

Select Telephones

Weekly View Monthly View Callers/Areas Multi-Location Trends

Summary

	Table	Graph	Map
Summary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Call Totals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Usage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Call Duration Distribution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Call Duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Average Call Duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Call Types

	Table	Graph	Map
Call Type By Day (weekly Total)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Call Type By Hour (daily Detail)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Call Type By Hour (weekly Total)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Answered Totals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Busy Totals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abandoned Totals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Totals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Tips OK

FIG. 22

October 26, 1998 - November 1, 1998

New ZIP Codes

New ZIP codes discovered in the current date range ranked by answered call count.

540

Zip Code	State	Call Count	First Call Date & Time	Last Call Date & Time	Total Duration
55402	MN	11	10/26/98 11:07:00 AM	10/30/98 02:46:00 PM	0:27:40.0
55416	MN	11	10/26/98 12:11:00 PM	10/29/98 02:37:00 PM	0:11:25.0
84111	UT	6	10/26/98 09:56:00 AM	10/28/98 02:15:00 PM	0:31:12.0
55343	MN	6	10/26/98 01:38:00 PM	10/30/98 11:57:00 AM	0:14:28.0
56304	MN	5	10/26/98 06:43:00 PM	10/28/98 05:47:00 PM	0:44:51.0
85012	AZ	4	10/27/98 05:15:00 PM	10/29/98 05:48:00 PM	0:06:14.0
55347	MN	4	10/26/98 06:51:00 AM	10/28/98 02:43:00 PM	0:02:31.0
98191	WA	3	10/26/98 10:34:00 AM	10/29/98 06:09:00 PM	0:16:07.0
55104	MN	3	10/26/98 11:48:00 AM	10/27/98 11:30:00 AM	0:03:12.0
55415	MN	3	10/27/98 05:34:00 PM	10/30/98 01:03:00 PM	0:02:17.0
80132	CO	3	10/26/98 12:57:00 PM	10/26/98 02:57:00 PM	0:01:24.0
55425	MN	2	10/26/98 04:25:00 PM	10/28/98 03:56:00 PM	0:06:05.0
98488	WA	2	10/28/98 01:26:00 PM	10/28/98 01:29:00 PM	0:05:34.0
83204	ID	2	10/30/98 11:09:00 AM	10/30/98 11:09:00 AM	0:04:48.0
55431	MN	2	10/26/98 03:59:00 PM	10/30/98 09:44:00 AM	0:03:39.0
55124	MN	2	10/27/98 02:08:00 PM	10/27/98 02:10:00 PM	0:03:07.0
55364	MN	2	10/27/98 03:50:00 PM	10/27/98 03:50:00 PM	0:00:46.0
55437	MN	2	10/28/98 05:11:00 PM	10/29/98 03:25:00 PM	0:00:29.0
55305	MN	1	10/27/98 03:20:00 PM	10/27/98 03:20:00 PM	0:09:54.0
85283	AZ	1	10/28/98 05:44:00 PM	10/28/98 05:44:00 PM	0:07:33.0
85024	AZ	1	10/27/98 05:41:00 PM	10/27/98 05:41:00 PM	0:04:06.0
80202	CO	1	10/30/98 01:36:00 PM	10/30/98 01:36:00 PM	0:03:35.0
55118	MN	1	10/30/98 08:37:00 AM	10/30/98 08:37:00 AM	0:03:17.0
97401	OR	1	10/29/98 02:13:00 PM	10/29/98 02:13:00 PM	0:02:32.0
80206	CO	1	10/28/98 10:09:00 AM	10/28/98 10:09:00 AM	0:02:02.0
68144	NE	1	10/28/98 03:14:00 PM	10/28/98 03:14:00 PM	0:01:51.0
55391	MN	1	10/28/98 05:36:00 PM	10/28/98 05:36:00 PM	0:01:48.0
55011	MN	1	10/26/98 02:30:00 PM	10/26/98 02:30:00 PM	0:01:47.0
85255	AZ	1	10/27/98 05:55:00 PM	10/27/98 05:55:00 PM	0:01:22.0
99216	WA	1	10/30/98 11:29:00 AM	10/30/98 11:29:00 AM	0:01:11.0
97204	OR	1	10/26/98 02:08:00 PM	10/26/98 02:08:00 PM	0:00:57.0
55113	MN	1	10/26/98 03:59:00 PM	10/26/98 03:59:00 PM	0:00:43.0
68102	NE	1	10/26/98 12:05:00 PM	10/26/98 12:05:00 PM	0:00:41.0
98004	WA	1	10/30/98 03:32:00 PM	10/30/98 03:32:00 PM	0:00:41.0
55422	MN	1	10/26/98 11:12:00 AM	10/26/98 11:12:00 AM	0:00:20.0
55102	MN	1	10/27/98 11:47:00 AM	10/27/98 11:47:00 AM	0:00:07.0
55427	MN	1	10/26/98 04:09:00 PM	10/26/98 04:09:00 PM	0:00:06.0
55404	MN	1	10/26/98 04:26:00 PM	10/26/98 04:26:00 PM	0:00:05.0
55420	MN	1	10/26/98 10:05:00 AM	10/26/98 10:05:00 AM	0:00:03.0

FIG. 23

Call Type by Hour
Monday, 10/26/98

ANSWERED
BUSY
UNANSWERED
UNKNOWN

550 →

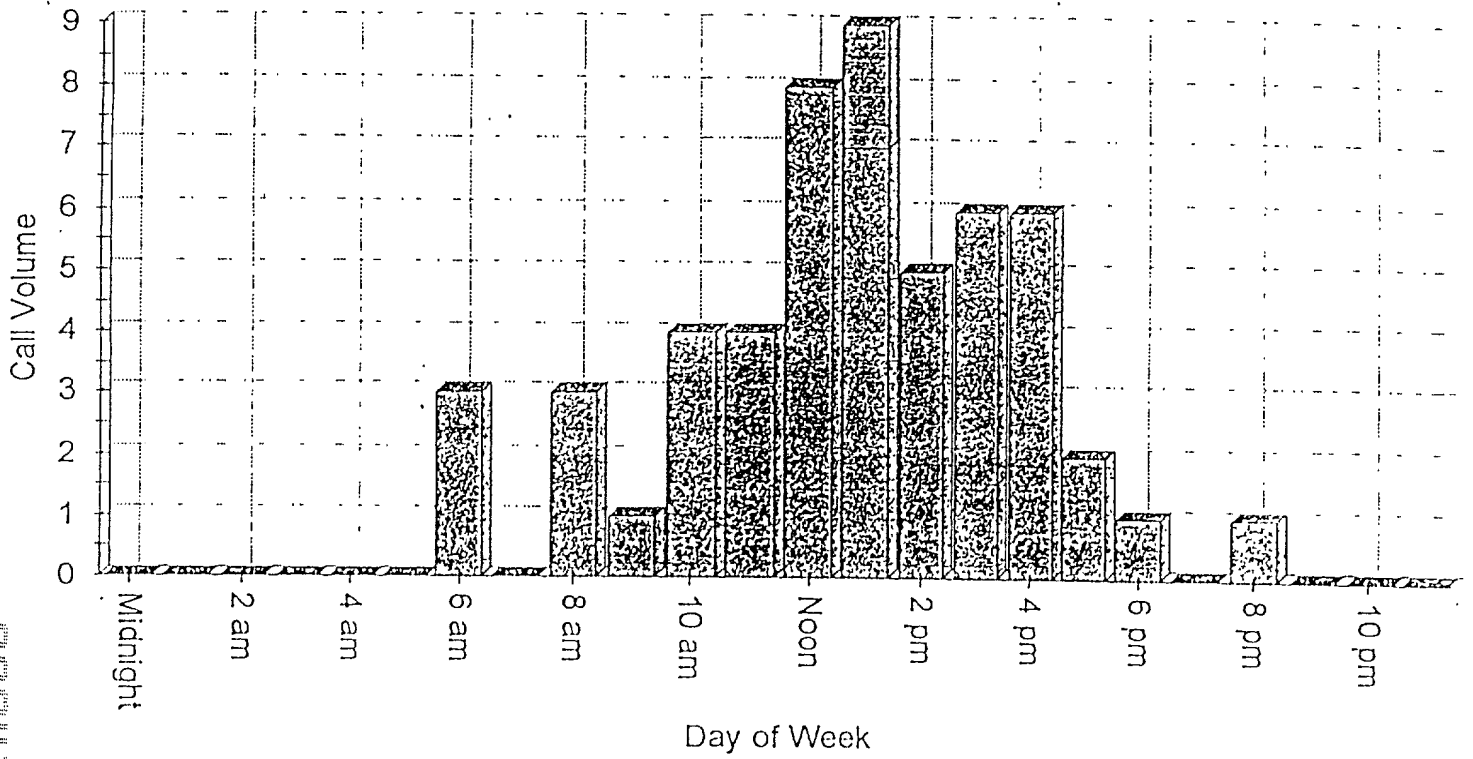


FIG. 24

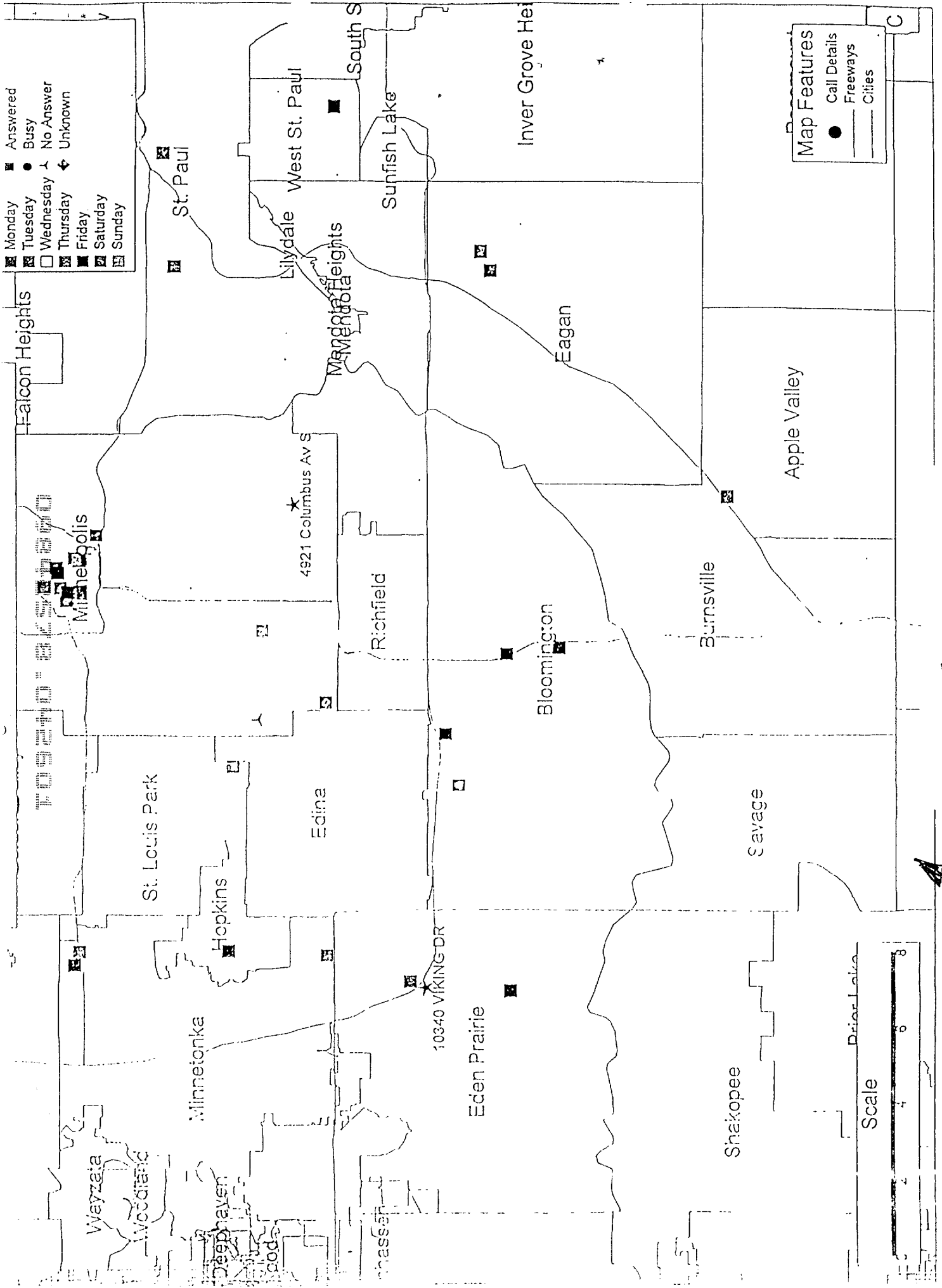


FIG. 26

570